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(54) **HOOK FOR SHOULDER SLING**

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(51) **Int. Cl.**

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A45F 5/00	(2006.01)
F41C 23/02	(2006.01)
F41C 33/00	(2006.01)

(52) **U.S. Cl.**

CPC ... ***A45F 3/00*** (2013.01); ***A45F 5/00*** (2013.01); ***F41C 23/02*** (2013.01); ***F41C 33/002*** (2013.01); ***F41C 33/007*** (2013.01); *A45F 2003/001* (2013.01); *A45F 2200/0591* (2013.01)

(58) **Field of Classification Search**

CPC A45F 3/12; A45F 5/02; A45F 2003/12; A45F 2003/001; A45F 3/00; A45F 5/00; A41D 27/26; F41C 33/00; F41C 33/001; F41C 33/002; F41C 23/02; A41F 15/02; A41F 15/007; A45C 13/30; F16B 2/08; A44B 11/12

USPC 224/257, 264; 248/647, 227.1, 227.4

See application file for complete search history.

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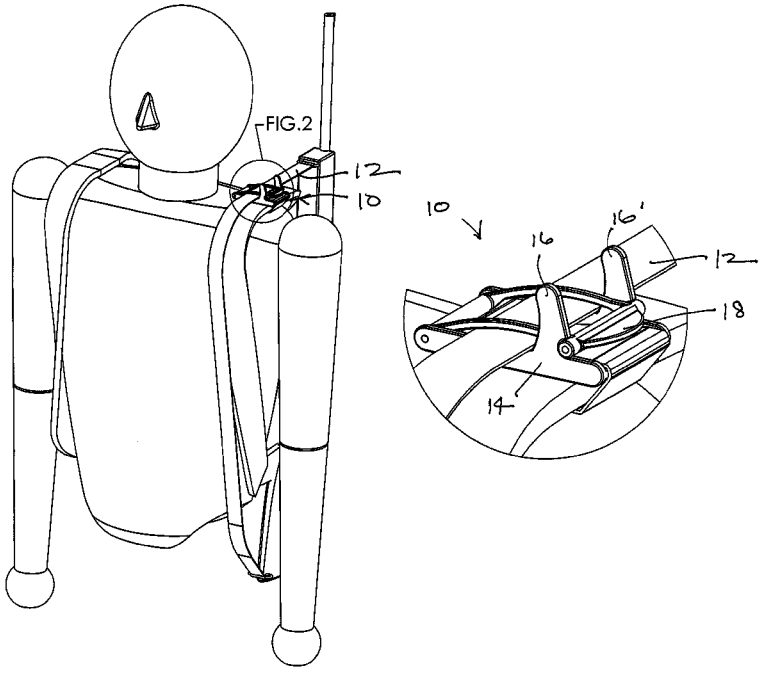
(57) **ABSTRACT**

Several versions of a holder for a shoulder sling or strap are described. Preferably, the holder may be secured to or manufactured in the shoulder strap of a backpack or a garment. The holder has a generally horizontal base with at least one preferably integrally formed upstanding prong near one end of the base. Near the other end of the base, a moveable clamp is secured, and extends over the middle region of the base to engage with the upstanding prong. This way, for example, when the clamp is engaged with the prong, it extends over and cooperates to hold a rifle sling on the middle region of the base beneath the clamp.

16 Claims, 12 Drawing Sheets



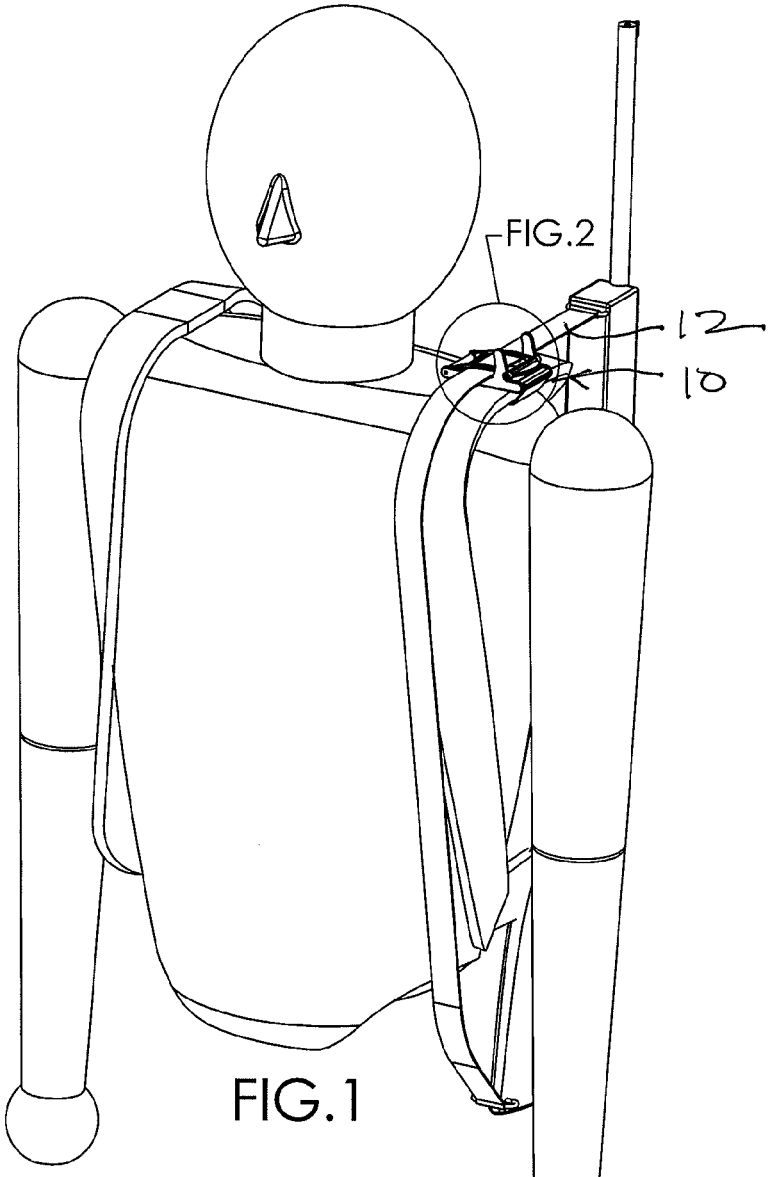


FIG.1

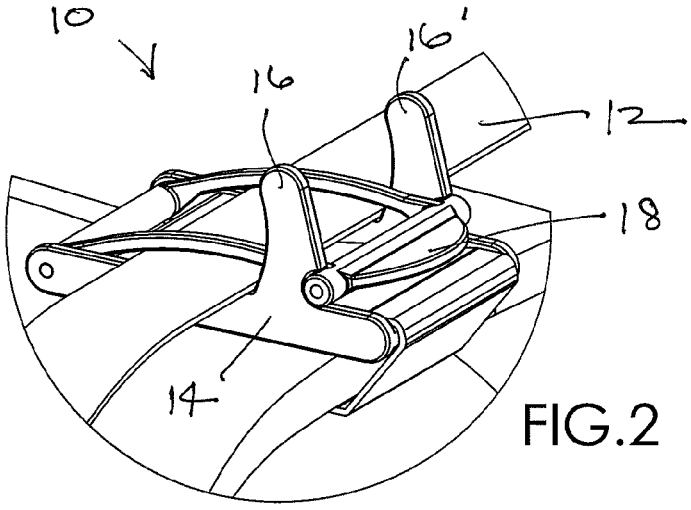


FIG.2

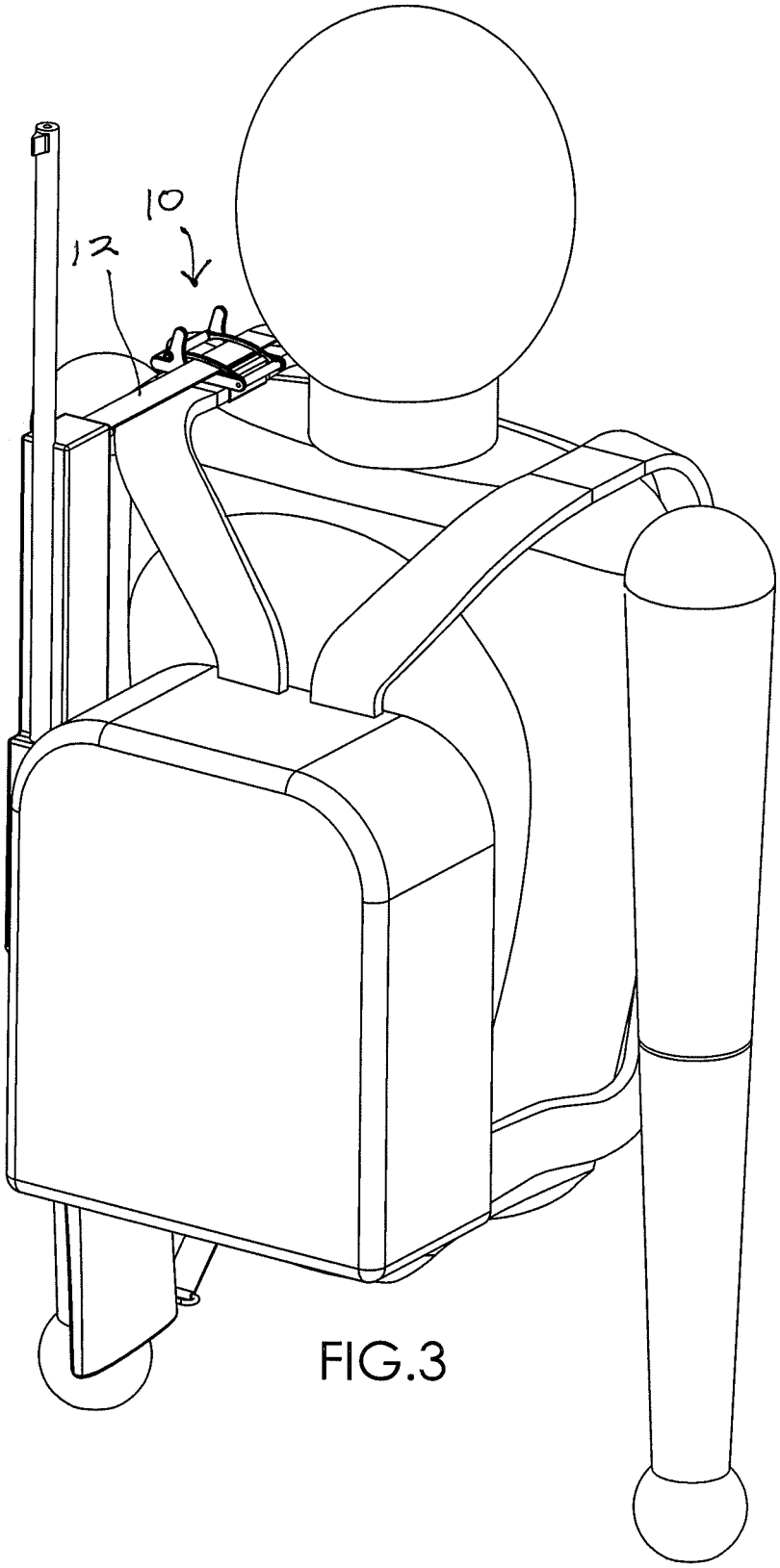


FIG.3

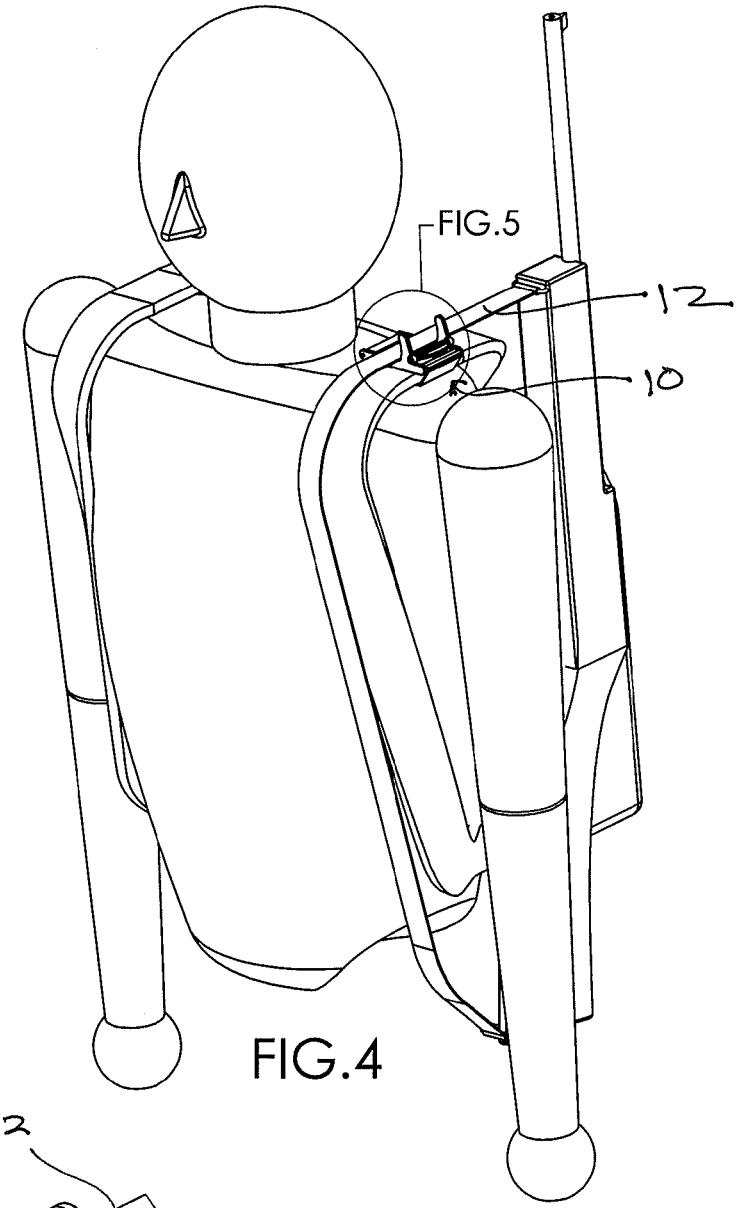


FIG.4

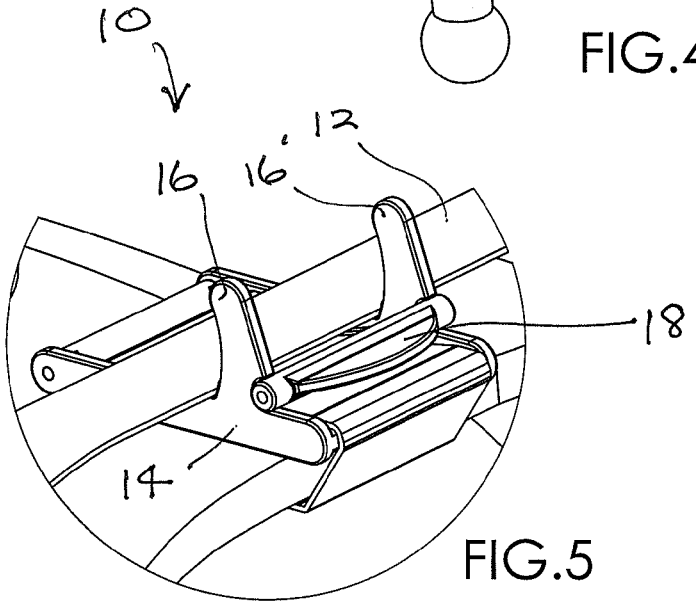


FIG.5

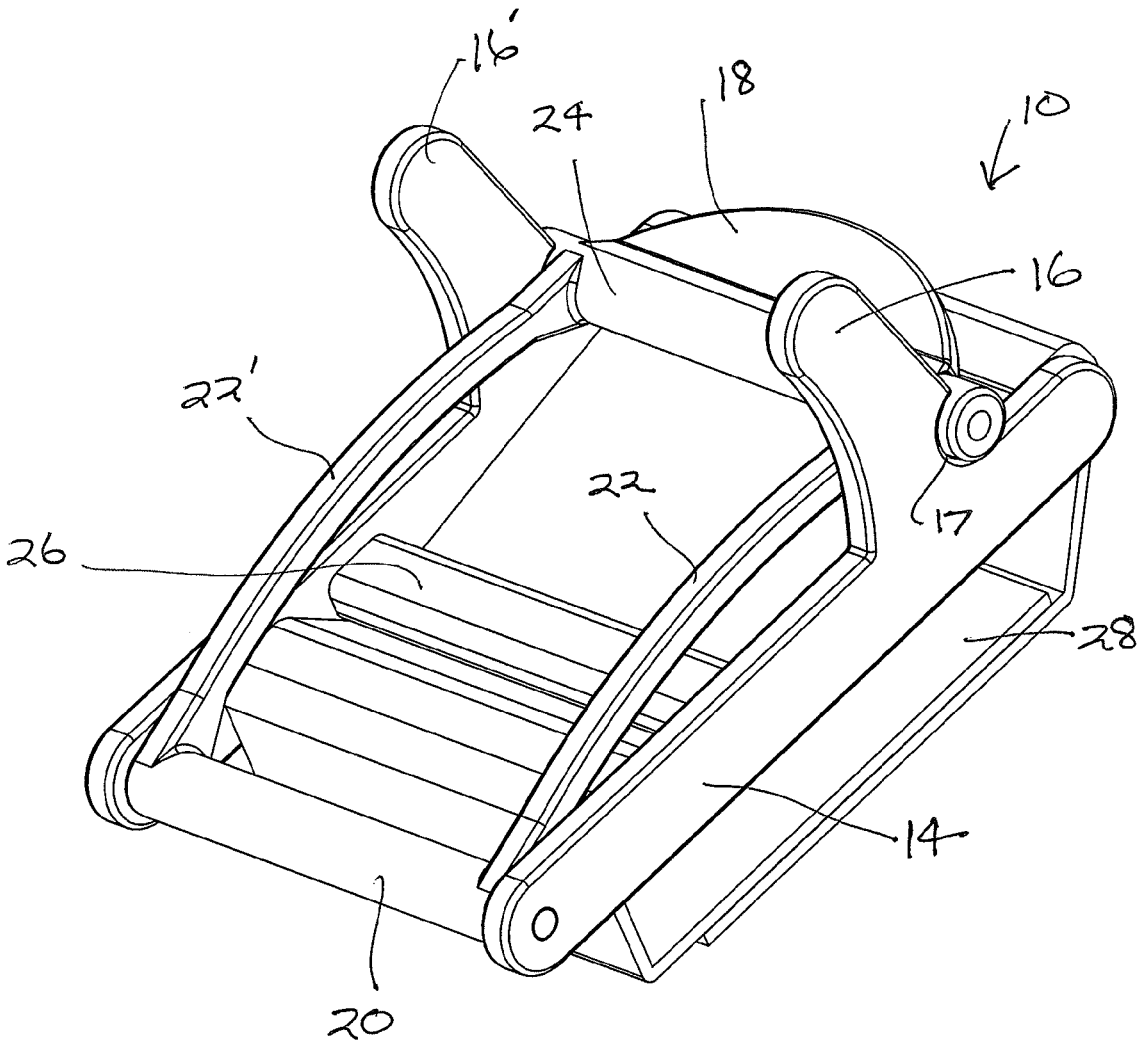


FIG.6

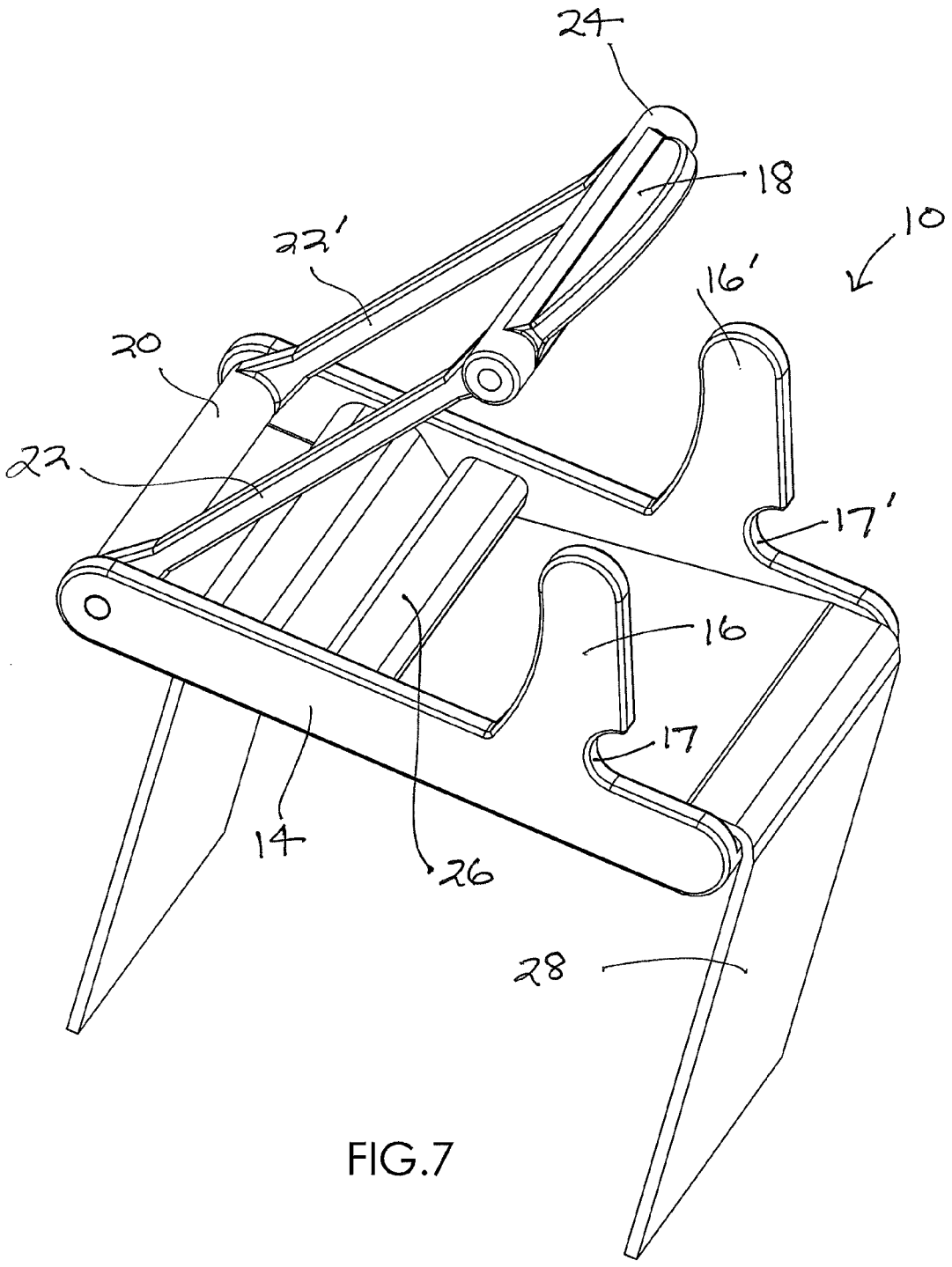


FIG.7

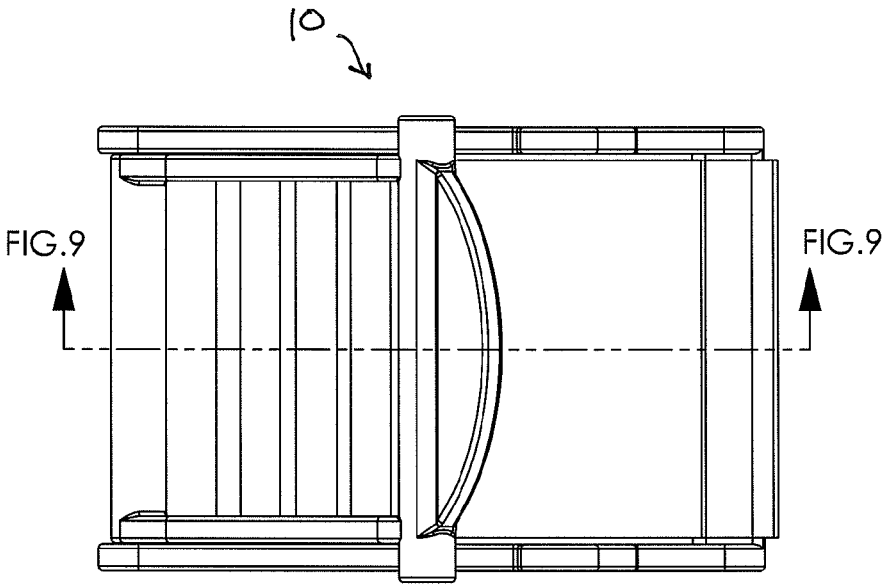


FIG.8

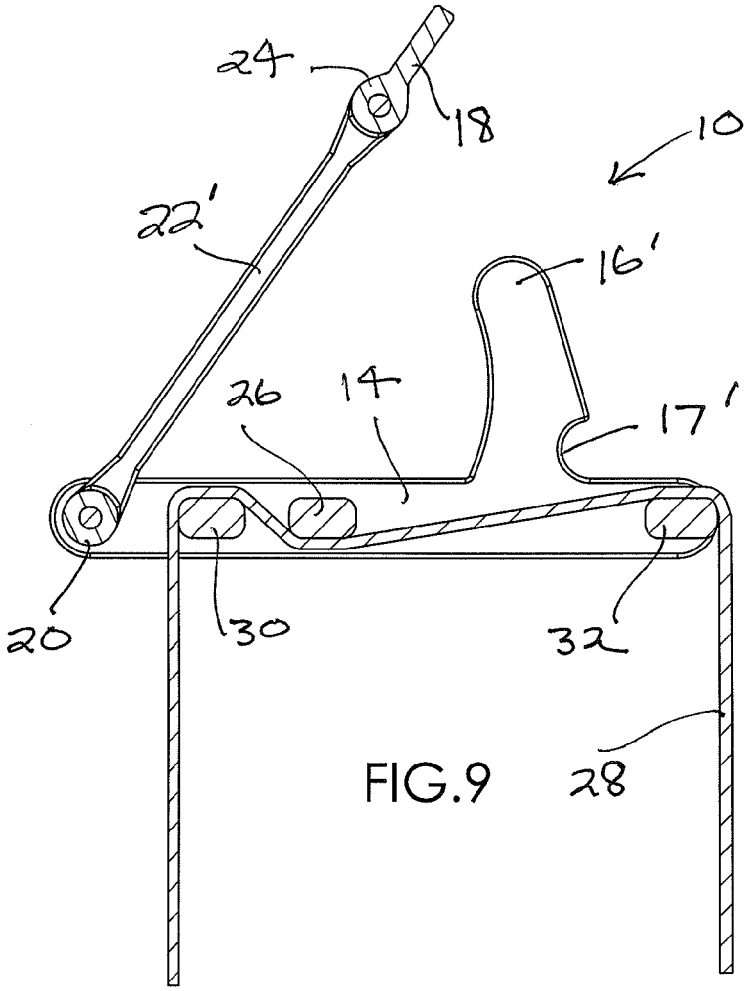


FIG.9

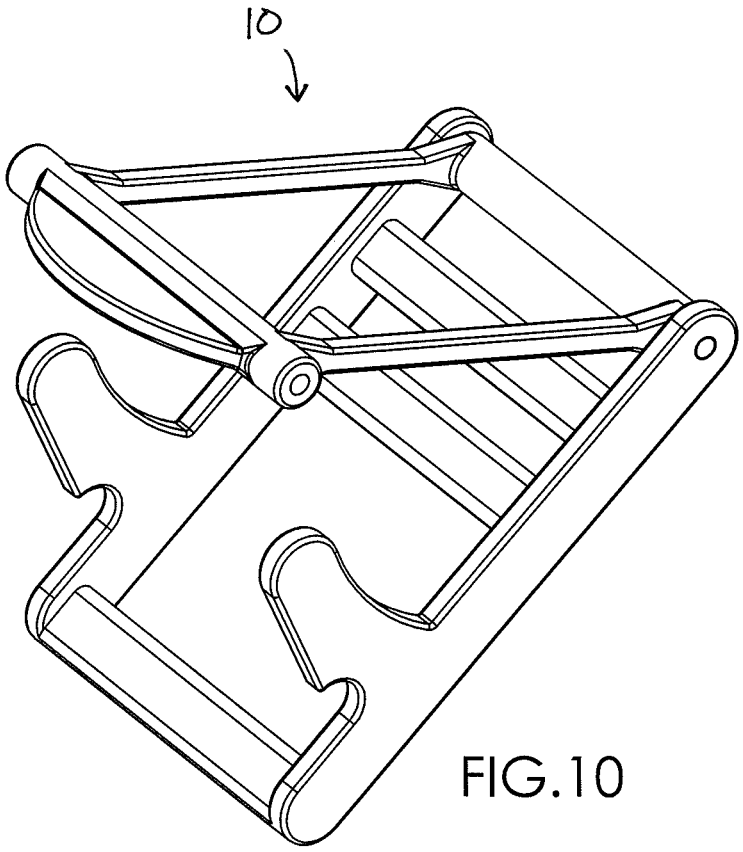


FIG.10

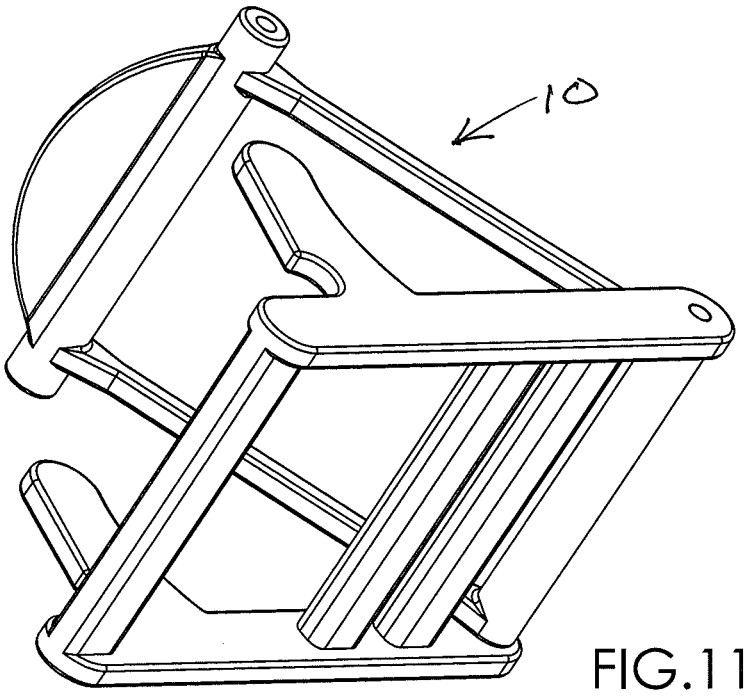


FIG.11

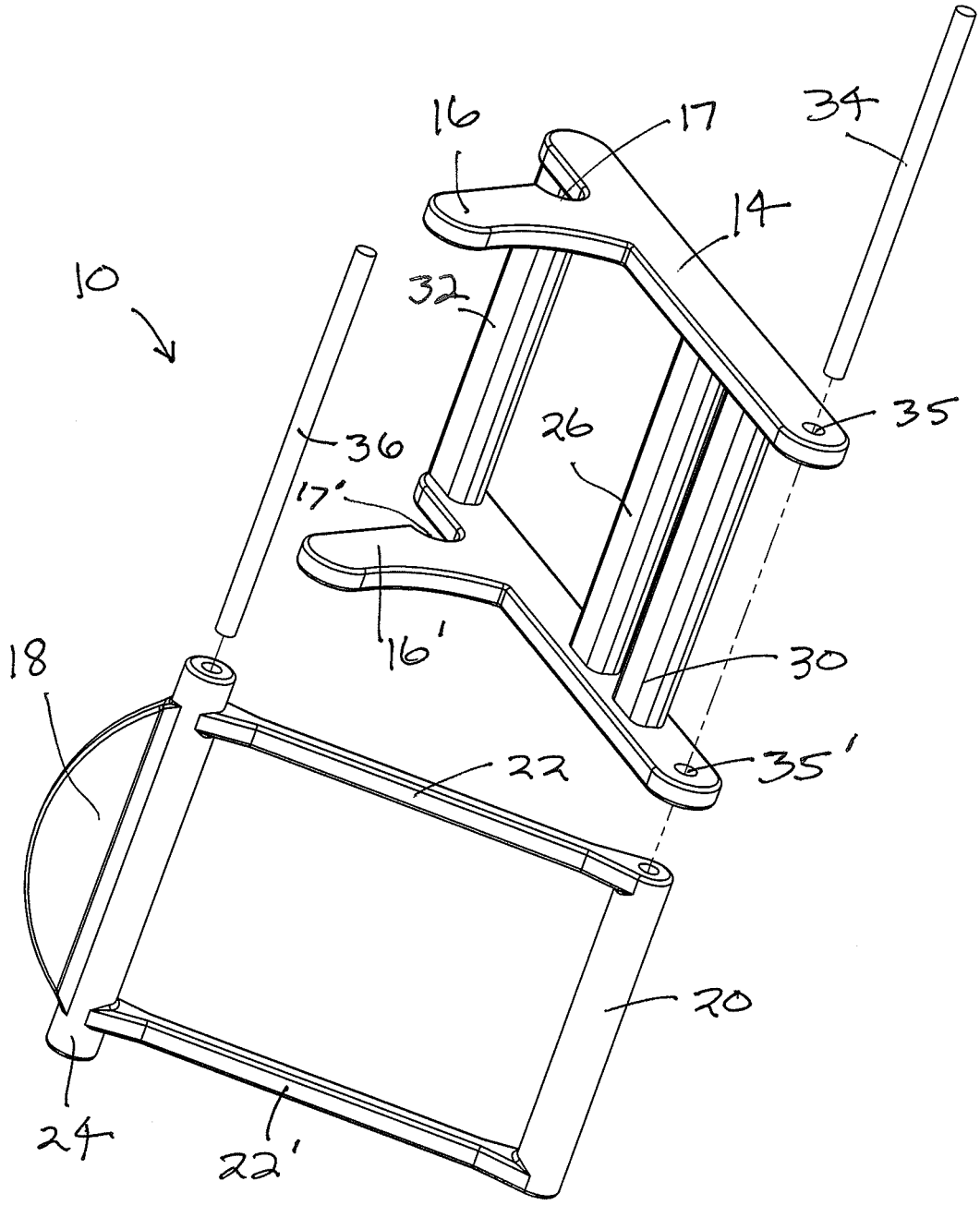


FIG.12

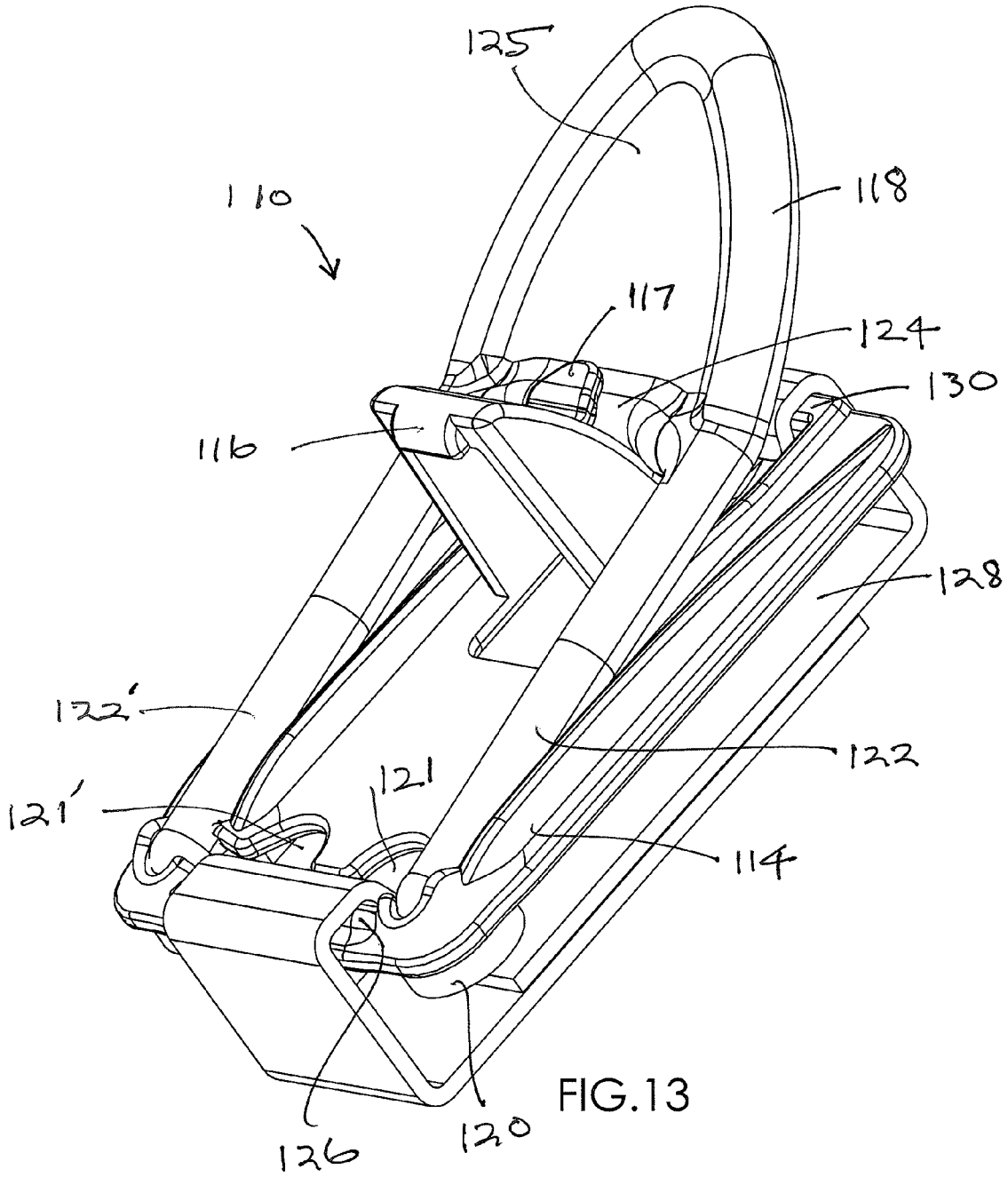


FIG.13

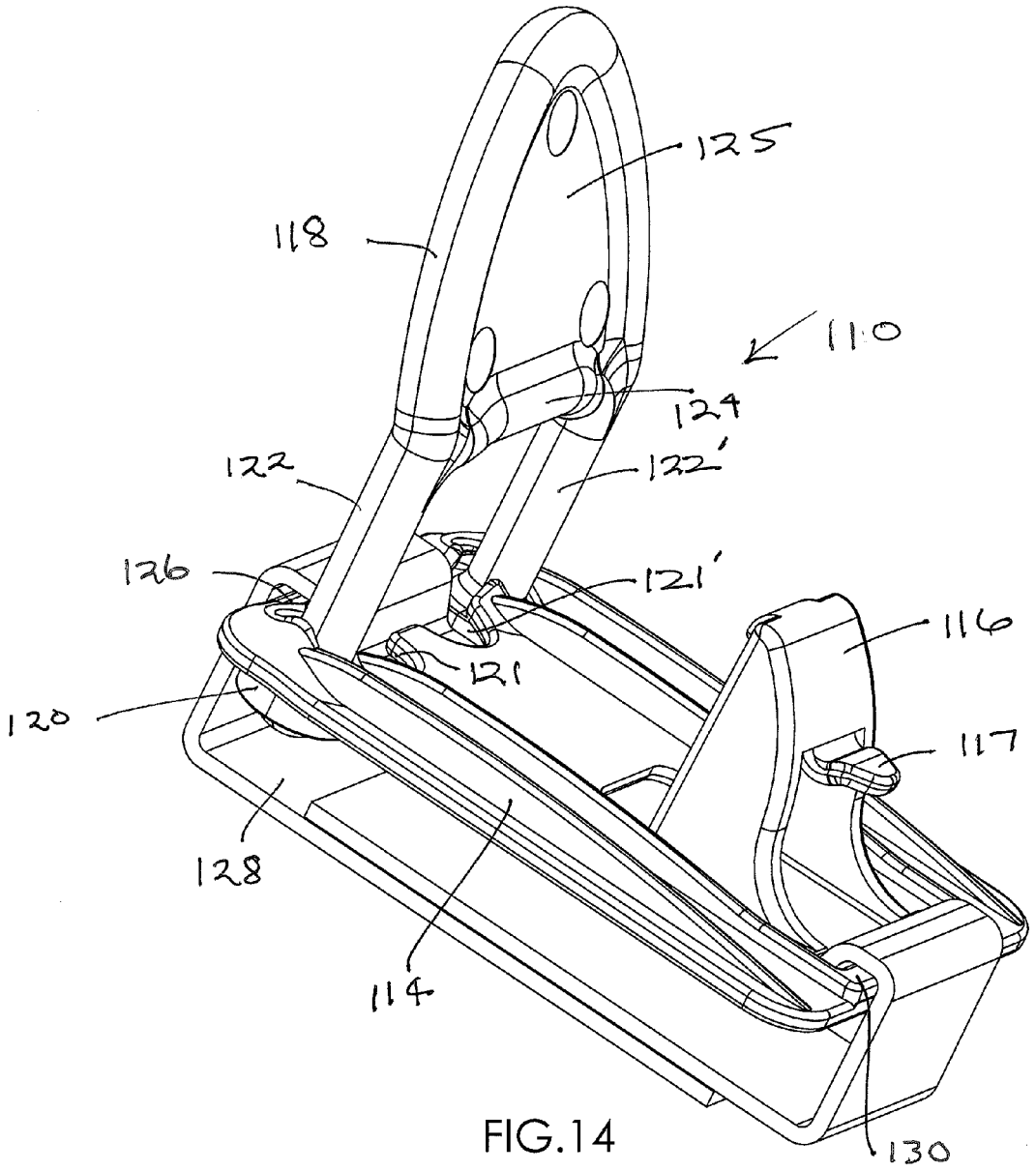


FIG.14

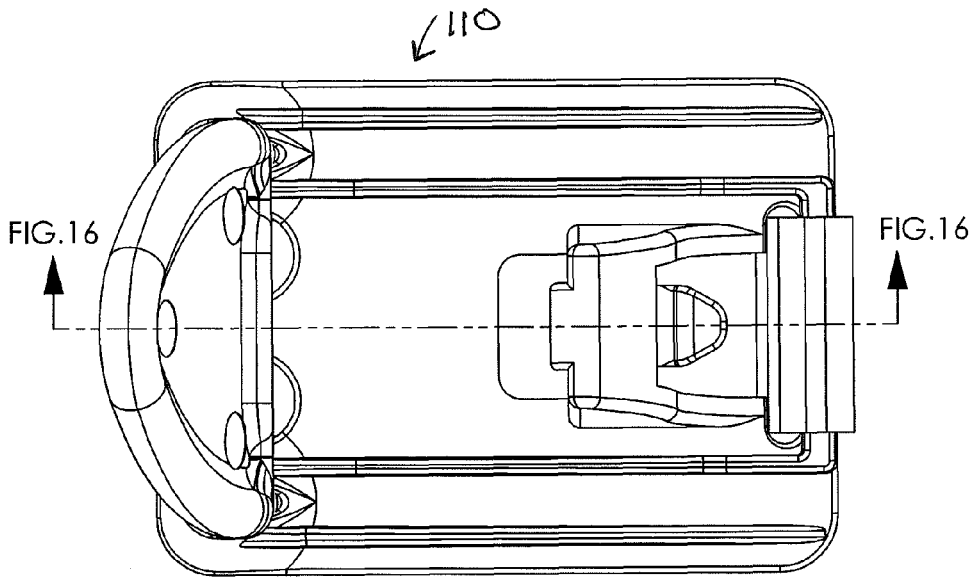


FIG.15

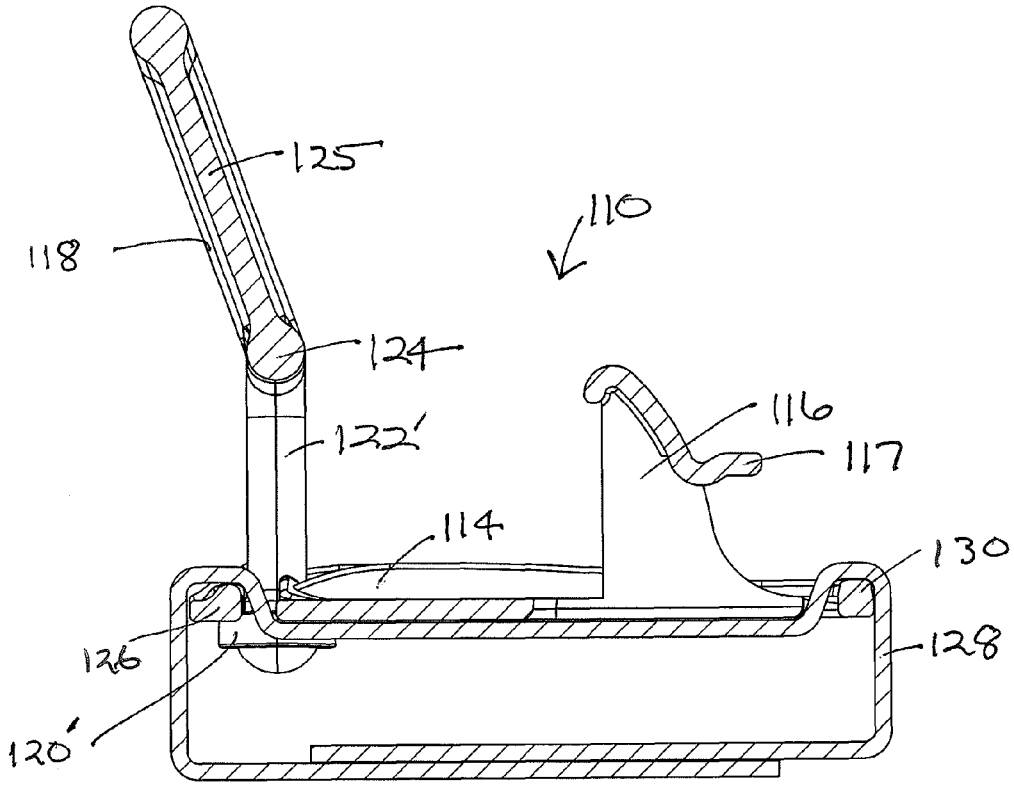


FIG.16

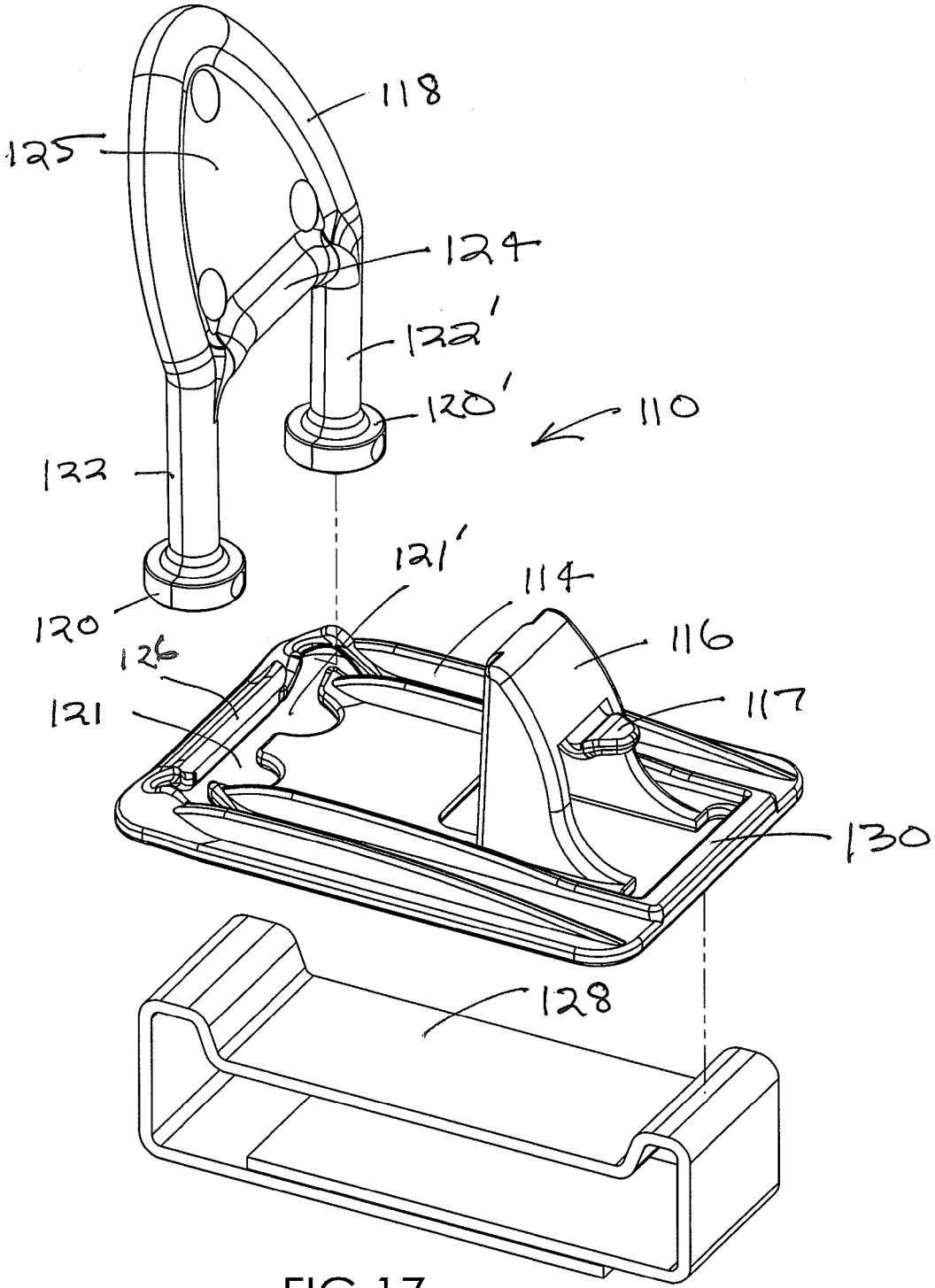


FIG.17

HOOK FOR SHOULDER SLING

This application claims priority from U.S. Provisional Patent Application Ser. No. 61/453,002, filed Mar. 15, 2011, the entire disclosure of which is incorporated herein by this reference.

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates generally to backpacks and garments with shoulder straps. More specifically, this invention relates to a holder, typically for holding other straps or slings, which holder is preferably secured to a shoulder strap. The holder is especially well-adapted to restrain the sling of a rifle, for example, to the shoulder strap of a backpack or garment of a hunter or soldier, for example, and thereby secure the rifle to the person wearing the backpack or garment.

2. Related Art

U.S. Pat. No. 2,748,390 (Carlson), discloses a malleable metal tang which is sewn onto the shoulder of a garment. The tang may be bent up and around to form a retaining hook for a rifle sling. This way, the retainer can restrain the sling of a rifle from sliding off the shoulder of a wearer.

U.S. Pat. No. 3,940,039 (Sasaki), discloses a shoulder sling retainer which may be buttoned or otherwise secured to the shoulder of a garment. The retainer has a pivoted hook at its distal end, the hook being freely rotatable in the proximal direction towards the wearer, but limited in movement in the distal direction. This way, the retainer can restrain the sling of a rifle.

SUMMARY OF THE INVENTION

This invention is a holder for a shoulder sling. Preferably, the holder may be secured to the shoulder strap of a backpack. Also, the holder may be secured to the shoulder strap section of a garment, like a vest. Also, the holder may be built into, so that it is integrally contained within, the shoulder strap of a backpack, or built into the shoulder strap section of a garment.

The instant holder has a generally horizontal base portion with at least one preferably integrally formed upstanding prong. Preferably there are two prongs, spaced-apart symmetrically about the longitudinal axis of the horizontal base portion. Two prongs may be joined together by a bridge over the longitudinal axis to make a reinforced buttress. Preferably, the prong is closer to the distal end of the base, relative to the wearer. Closer to the proximal end of the base, that is, nearer the wearer, there is a moveable clamp which is secured proximally but extends distally to cooperate and engage with the upstanding prong. This way, when the clamp is engaged with the prong, it extends over and fits over the middle portion of the base. If a rifle sling, for example, is laid over the middle portion of the base when the holder is secured to a strap of a backpack or garment on a wearer, and then the clamp is engaged with the prong, the rifle sling will be held securely under the clamp of the holder to the backpack or garment of the wearer. Also, due to the upstanding prong, the rifle sling may be conveniently more loosely held by the holder, even without the clamp being engaged over the sling, but by being disengaged or engaged under it.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a front, top, perspective, schematic view of one embodiment of the invention attached to the shoulder strap of a backpack with the clamp engaged over a rifle sling.

FIG. **2** is a detail view of the circled region in FIG. **1**.

FIG. **3** is a rear view of the view depicted in FIG. **1**.

FIG. **4** is a view like FIG. **1**, but with the clamp engaged under a rifle sling.

FIG. **5** is a detail view of the circled region in FIG. **4**.

FIG. **6** is a top, proximal, perspective view of the holder embodiment depicted in FIGS. **1-5**, with the clamp and the holder fastening strap engaged.

FIG. **7** is a top, distal, perspective view of the embodiment depicted in FIGS. **1-6**, but with the clamp and the holder fastening strap disengaged.

FIG. **8** is a top view of the embodiment depicted in FIG. **7**.

FIG. **9** is a side, cross-sectional view of the view depicted in FIG. **8**, along dashed line **9-9** therein.

FIG. **10** is a top, perspective view of the embodiment depicted in FIGS. **7-9**, but without the fastening strap present.

FIG. **11** is a bottom, perspective view of the view depicted in FIG. **10**.

FIG. **12** is a top, proximal, perspective exploded view of the embodiment depicted in FIGS. **1-11**, but without the fastening strap present.

FIG. **13** is a view like FIG. **6**, but of an alternative embodiment of the invention.

FIG. **14** is a view like FIG. **7**, but with the alternative embodiment depicted in FIG. **13**, and with the holder fastening strap engaged.

FIG. **15** is a top view of the embodiment depicted in FIG. **14**.

FIG. **16** is a side-cross-sectional view of the view depicted in FIG. **15**, along dashed line **16-16** therein.

FIG. **17** is a top, proximal, perspective exploded view of the alternative embodiment depicted in FIGS. **13-16**.

DETAILED DESCRIPTION OF THE INVENTION

Referring to the Figures, there are shown two, but not all, of the embodiments of the subject hook for shoulder sling.

Referring to FIG. **1**, there is depicted hook **10** for rifle shoulder sling **12** according to one embodiment of the invention. Sling **12** is for a rifle being carried on the left shoulder of a wearer in this Figure. Also in this Figure, the hook **10** has its clamp engaged over the sling to securely hold the rifle sling **12**.

FIG. **2** depicts hook **10** and sling **12** in more detail. Hook **10** has base portion **14** with, in this case, two integrally formed upstanding prongs **16** and **16'** located towards the end of base portion farthest away from the wearer, that is, the distal end. Preferably, prongs **16** and **16'** are between about ½ to 1½ inches high off the top of the middle portion of base **114**. Near the end of base portion **14** nearest the wearer, that is, the proximal end, there is a clamp **18** which is secured proximally, but extends distally, to cooperate and engage with the distal ends of upstanding prongs **16** and **16'**. This way, when clamp **18** is extended over and latched onto prongs **16** and **16'** as shown in the Figure, the middle portion of base **14** is underneath clamp **18**. This way, rifle sling **12** may be placed on the middle portion of base **14**, then covered by clamp **18**, and securely held to the shoulder of the wearer by holder **10** when clamp **18** is engaged with the upstanding prongs **16** and **16'** over the sling.

FIG. **3** depicts hook **10** for rifle shoulder sling **12** as in FIG. **1**, but from a rear view.

FIG. **4** is a view like FIG. **1**, and FIG. **5** is a view like FIG. **2**, except in FIGS. **4** and **5** clamp **18** is engaged on prongs **16** and **16'** before the rifle sling **12** is a placed on the middle portion of base **14**, that is, clamp **18** is engaged under the sling **12**. This way, the rifle sling **12** may still be conveniently held

by holder **10**, but not as securely as when the clamp **18** is engaged over the sling. This way, the wearer may remove the sling **12** with the rifle very quickly, yet still have the sling restrained somewhat by hook **10** before removal.

FIG. **6** depicts an isolated view of the holder **10** without rifle sling **12** or a wearer being pictured. Again holder **10** has a generally horizontal base portion **14** and two, integral upstanding prongs **16** and **16'**. Moveable clamp **18** extends from near the proximal end of base **14**, where clamp **18** is secured, to upstanding prongs **16** and **16'**, more towards the distal end of base **14**. In this case, clamp **18** is made of a stretchable elastic material and comprises an attachment end **20** to the proximal end of base **14**, and two substantially parallel stretchable legs **22** and **22'** near the lateral sides of base **14** which extend to and even slightly past prongs **16** and **16'**, respectively. The distal ends of legs **22** and **22'** terminate at common securement end **24** of the clamp **18**, which in this case is a transverse cylinder slightly longer than the distance between prongs **16** and **16'**. Conveniently, securement end **24** has a flat, distal end tab for being easily grabbed by the thumb and fingers of a hand of the wearer. Also effectively, securement end **24** is adapted to rest securely when engaged with prongs **16** and **16'** in lower, distal indent sections **17** and **17'**, respectively of the prongs.

Also depicted in FIG. **6** is first transverse bar **26** which extends between the lateral sides of base **14**, and holder fastening strap **28** which threads through the base **14** under first transverse bar **26**, over second transverse bar **30** and over third transverse bar **32** (bars **30** and **32** not being shown in this Figure). This way, fastening strap **28** may secure hook **10** to a strap or sling as shown in FIGS. **1** and **2** for sling **12**.

FIG. **7** depicts the same features of the invention as depicted in FIG. **6**, but with the clamp **18** and the holder fastening strap **28** disengaged.

FIG. **8** is a top view, and FIG. **9** is a side, cross-sectional view of the view depicted in FIG. **7**. From FIG. **9** it is apparent from viewing the Figure left-to-right that holder fastening strap **28** is threaded first over second transverse bar **30**, then under first transverse bar **26** and finally over third transverse bar **32** before connecting with itself to interconnect with holder **10** at base **14**. Fastening strap **28** may be made with appropriate hook and loop connectors, for example, so that, when the strap is overlapped on itself, as shown in FIG. **6**, it is tightly held together so that it may be securely snugged-up and attached around a backpack or garment shoulder strap, for example.

FIGS. **10** and **11**, are, respectively, top and bottom perspective views of the holder **10** embodiment with clamp **18** disengaged and fastening strap **28** not present.

FIG. **12** is an exploded view of the holder **10** embodiment. Newly depicted in FIG. **12** is axle bar **34** which fits inside clamp **18** attachment end **20**, and also fits into indents or holes on each lateral side of base **14** near the proximal end thereof. This way, attachment end **20** may help clamp **18** rotate relative to base **14**, however, rotation of clamp **18** is not necessary. Also newly depicted in FIG. **12** is reinforcement bar **36** which fits inside securement end **24** of clamp **18** to reinforce and rigidify it there.

An alternative embodiment of the invention is depicted in FIGS. **13-17**.

Referring to FIG. **13**, there is depicted hook **110** for a rifle shoulder sling, the sling not being shown in this Figure. Hook **110** has base portion **114** with, in this case, one integrally formed upstanding prong **116** located towards the distal end of base portion **114**. Preferably, prong **116** is between about ½-1½ inches high off the top of the middle portion of base **114**. Prong **116** has distally extending tab **117** on prong's **116** distal end. The distal end of clamp **118** preferably stretches slightly and extends over the middle portion of base **114**, and over the distal end of prong **116**, to be secured under tab **117** at the securement end **124** of clamp **118**. Preferably, clamp **118** is made of a stretchable elastic material, and comprises two proximal attachment ends **120** and **120'** (attachment end **120'** not being shown in this Figure). Clamp **118** also comprises two substantially parallel, preferably stretchable legs **122** and **122'** secured through apertures **121** and **121'** with attachment ends **120** and **120'**, respectively, in base **114**. The distal ends of legs **122** and **122'** terminate at securement end **124** of clamp **118**. Clamp **118** has a convenient and effective flat, distal end region **125** for being easily grabbed by the thumb and fingers of a hand of the wearer.

Also depicted in FIG. **13** is proximal transverse bar **126** which extends between the sides of base **114** at the proximal end thereof, and distal transverse bar **130** which extends between sides of base **114** at the distal end thereof. Also depicted in FIG. **13** is holder fastening strap **128** which threads through apertures in the base **114** made by proximal transverse bar **126** and distal transverse bar **130**.

FIG. **14** depicts the same features of this embodiment of the invention as depicted in FIG. **13**, but with the clamp **118** disengaged.

FIG. **15** is a top view, and FIG. **16** is a side, cross-sectional view, of the view depicted in FIG. **14**. From FIG. **16** it is apparent from viewing the Figure left-to-right that holder fastening strap **128** is threaded over proximal transverse bar **126**, under the middle portion of base **114**, and over distal transverse bar **130** to interconnect with holder **110** at base **114**. Fastening strap **128** may be made with appropriate hook and loop connectors, for example, so that when the strap is overlapped on itself it is tightly held together so that it may be securely snugged-up and attached around a backpack or garment shoulder strap, for example.

FIG. **17** is an exploded view of the holder **110** embodiment.

Although this invention has been described above with reference to particular means, materials and embodiments, it is to be understood that the invention is not limited to these disclosed particulars, but extends instead to all equivalents within the broad scope of the following claims.

I claim:

1. A hook for a shoulder sling, comprising:

a generally horizontal base with a first end, middle portion, and a second end, said base having an upstanding, upwardly-projecting prong, the prong having a bottom end located on said base near the base's second end, a lower distal section near said base, and a top end ½-1.5 inches above the base, said base having a generally horizontal moveable clamp of stretchable elastic material, said clamp being secured near the base's first end;

said base further comprising a fastening strap that threads through the base and is fastenable in a loop for securing the hook to a backpack strap; and,

said moveable clamp being adapted to extend horizontally past said base's middle portion to said upstanding, upwardly-projecting prong to detachably engage with said distal section of the prong near said base, so that the movable clamp when detachably engaged with said distal section of the prong is close to and generally parallel to the generally horizontal base, for receiving an elongated strap horizontal portion in a first position between the middle portion of said base and the moveable clamp and in a second position above the middle portion of the base and the moveable clamp.

2. A hook for holding a shoulder sling on a user's shoulder, the hook comprising:

a generally horizontal base with a proximal end, middle portion, distal end, and a longitudinal axis and lateral sides extending between the proximal and distal ends, said base further comprising a fastening strap that threads through the base and is fastenable in a loop for securing the hook to a backpack strap;

a prong upending from the generally horizontal base near the distal end of the base, the prong having a bottom end at the base, a top end above the base, a distal side, a proximal side, a first lateral side, and a second lateral side; and

a moveable clamp of stretchable elastic material, said clamp having a proximal portion and a distal portion, the proximal portion being secured to the base at a proximal connection near the proximal end of the base, and said moveable clamp extending generally horizontally, from said proximal connection, across said middle portion of the base, and along said first lateral side of the prong near the base, to a distal connection where the clamp detachably engages the distal side of the prong near said bottom end of the prong, so that, when detachably engaging the distal side of the prong, the clamp is close to and generally parallel to the generally horizontal base for receiving an elongated strap horizontal portion in a first position between the middle portion of said base and the moveable clamp and in a second position above the middle portion of the base and the moveable clamp.

3. The hook as in claim **2**, further comprising an additional prong upending from the generally horizontal base near the distal end of the base, the additional prong having a bottom end at the base, a top end above the base, a distal side, a proximal side, and first and second lateral sides;

wherein said moveable clamp further extends generally horizontally from said proximal connection, past said middle portion of the base, and along the first lateral side of the additional prong near the base, to a distal connection where the clamp detachably engages to the distal side of the additional prong near said bottom end of the additional prong.

4. The hook as in claim **3**, wherein the distal side of the prong and the distal side of the additional prong each have a detent section near the base, wherein said moveable clamp distal portion comprises a transverse member extending transversely relative to the lateral sides of the base and detachably engaging said detent section of the prong and said detent section of said additional prong.

5. The hook as in claim **4**, wherein the transverse member has a first end engaging the distal section of the prong and an opposing end engaging the distal section of the additional prong.

6. The hook as in claim **2**, wherein said moveable clamp further extends generally horizontally from said proximal connection, past said middle portion of the base, and along the second lateral side of the prong near the base, to said distal connection, so that the moveable clamp extends around said prong.

7. The hook system of claim **6**, wherein the moveable clamp comprises two longitudinal legs that are connected by a transverse member that engages a detent section in said distal side of the prong near said bottom end of the prong.

8. A hook system, adapted to hold a shoulder sling of a weapon on a user's shoulder, comprising:

a backpack for being worn on a user's shoulders and back, the backpack comprising two backpack shoulder straps for hanging the backpack on the user's shoulders; and

a hook that comprises:

a generally horizontal base with a proximal end, middle portion, distal end, and a longitudinal axis and lateral sides extending between the proximal and distal ends, wherein said base further comprises a fastening strap that threads through the base and fastens in a loop around either of the backpack shoulder straps to secure the hook to said either of the backpack shoulder straps to hold the base generally horizontally on the backpack shoulder strap above the user's shoulder; and,

a prong upending from the generally horizontal base near the distal end of the base, the prong having a bottom end at the base, a top end above the base, a distal side, a proximal side, and first and second lateral sides;

a moveable clamp of stretchable elastic material having a proximal portion and a distal portion, the proximal portion being secured to the base at a proximal connection near the proximal end of the base, and said moveable clamp extending generally horizontally, from said proximal connection, across said middle portion of the base, and along the first lateral side of the prong near the base, to a distal connection where the clamp detachably engages the distal side of the prong near said prong's bottom end; and

the hook system further comprising:

a weapon having an elongated shoulder sling, the shoulder sling extending across the hook transversely to said longitudinal axis of the base, and extending out beyond said lateral sides of the base, so that shoulder sling is restrained from sliding off the shoulder of a wearer by being held by the hook secured to said either of the backpack shoulder straps.

9. The hook system of claim **8**, wherein said shoulder sling extends across the middle region of the base between the base and the moveable clamp, so that the moveable clamp holds the shoulder sling on said middle region.

10. The hook system of claim **8**, wherein said shoulder sling extends transversely across the hook above the middle region of the base and above the clamp.

11. The hook system as in claim **8**, further comprising an additional prong upending from the generally horizontal base near the distal end of the base, the additional prong having a bottom end at the base, a top end above the base, a distal side, a proximal side, and first and second lateral sides, and

wherein said moveable clamp further extends generally horizontally, from said proximal connection, across said middle portion of the base, and along the first lateral side of the additional prong near the base, to a distal connection where the clamp detachably engages to the distal side of the additional prong near said bottom end of the additional prong.

12. The hook system as in claim **11**, wherein the distal side of the prong and the distal side of the additional prong each have a detent section near the base, wherein said moveable clamp distal portion comprises a transverse member extending transversely relative to the lateral sides of the base and detachably engaging said detent section of the prong and said detent section of said additional prong.

13. The hook system as in claim **11**, wherein the transverse member has a first end engaging the distal section of the prong and an opposing end engaging the distal section of the additional prong.

14. The hook system as in claim **8**, wherein said moveable clamp further extends generally horizontally from said proximal connection, past said middle portion of the base, and

along the second lateral side of prong near the base, to said distal connection, so that the moveable clamp extends around said prong.

15. The hook system of claim **14**, wherein the moveable clamp comprises two longitudinal legs that are connected by a transverse member that engages a detent section in said distal side of the prong near said bottom end of the prong.

16. The hook system of claim **8**, wherein in a first position said shoulder sling extends transversely across the middle region of the base between the base and the moveable clamp, so that the moveable clamp holds the shoulder sling on said middle region, and wherein in a second position said shoulder sling extends transversely across the hook above the middle region of the base and above the clamp so that the shoulder sling is held on the hook by the prong but not clamped down.

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